

(12/03/1999)

## CURRICULUM VITAE

Name: Richard David Kolodner  
Address: 13468 Kibbings Road, San Diego, CA 92130  
Date of Birth: April 3, 1951  
Place of Birth: Morristown, New Jersey  
Education:  
1971 B.S. University of California, Irvine  
1975 Ph.D. University of California, Irvine.  
(Advisor: Dr. K.K. Tewari)

### Academic Appointments:

1975-1978	Research Fellow in Biological Chemistry, Harvard Medical School (Advisor: Dr. C.C. Richardson)
1978-1983	Assistant Professor of Biological Chemistry, Harvard Medical School and Dana-Farber Cancer Institute
1978-1982	Tutor in Biochemistry, Harvard University
1981-1988	Head, Laboratory of Molecular Genetics, Dana-Farber Cancer Institute
1983-1987	Associate Professor of Biological Chemistry, Harvard Medical School and Dana-Farber Cancer Institute
1987-1988	Associate Professor of Biological Chemistry and Molecular Pharmacology, Harvard Medical School and Dana-Farber Cancer Institute
1988-1995	Member, Division of Cellular and Molecular Biology, Dana-Farber Cancer Institute
1988-1999	Professor of Biological Chemistry and Molecular Pharmacology, Harvard Medical School and Dana-Farber Cancer Institute (On leave, 1997-1999)
1990-1997	Head, Laboratory of X-Ray Crystallography, Dana-Farber Cancer Institute
1991-1994	Chair, Division of Cellular and Molecular Biology, Dana-Farber Cancer Institute
1995-1997	Chair, Charles A. Dana Division of Human Cancer Genetics, Dana-Farber Cancer Institute

1996-1999	Member, Department of Cancer Biology, Dana-Farber Cancer Institute (On leave, 1997-1999)
1997-	Professor of Medicine, University of California San Diego Medical School (On leave, 1997-1999)
1997-	Member, Biomedical Sciences Graduate Program, University of California San Diego Medical School
1997-	Member, Ludwig Institute for Cancer Research, San Diego Branch. Head, Laboratory of Cancer Genetics

Awards, Honors and Professional Recognition:

1970	Chancellor's Undergraduate Research Fellowship
1971	NSF Summer Fellowship
1971	Graduated with honors
1971-1975	NIH Predoctoral Traineeship
1975-1976	National Cystic Fibrosis Foundation Postdoctoral Fellowship
1976-1978	NIH Postdoctoral Fellowship
1981-1983	ACS Junior Faculty Research Award
1984-1988	ACS Faculty Research Award
1988	M.A. (Honorary), Harvard University
1989	Co-Chairman, 1989 FASEB Meeting on Genetic Recombination and Genome Rearrangements
1991	Chairman, 1991 FASEB Meeting on Genetic Recombination and Genome Rearrangements
1992	MERIT Award, NIH Grant GM26017
1994	Special Scientific Achievement Award, Sandoz Pharmaceuticals Inc.
1994	Morse Research Award, Dana-Farber Cancer Institute
1994	Crawford Memorial Lecture, University of Iowa College of Medicine
1994	Cancer Center Distinguished Lecturer, Yale University School of Medicine
1995	Dean's Distinguished Lecturer, University of Colorado School of Medicine
1996	Charles S. Mott Prize, General Motors Cancer Research Foundation
1996-1999	Charles A. Dana Senior Investigator (endowed chair), Dana-Farber Cancer Institute (On leave, 1997-1999)
1997	Susan Swirling Memorial Lecture, Dana-Farber Cancer Institute
1998	Co-organizer, Genetics Society of America meeting on DNA Repair: bacteria to humans

1998	Fellow, American Academy of Microbiology
1998	Elkin Distinguished Investigators Lectureship, Winship Cancer Center, Emory University
1999	Organizer, Symposium of DNA Repair, American Association for Cancer Research Annual Meeting
1999-2000	Organizer, American Association for Cancer Research Special Meeting on DNA Repair

Major Committee Assignments:

National:

1981	Site Visit Team, Biological Energy Research Program, Department of Energy
1981, 1984	Ad Hoc Member, Biochemistry Study Section NIH
1984, 1985	Site visit team member, Biochemistry Study Section, NIH
1986	Ad Hoc Member, Physiological Chemistry Study Section, NIH
1987-1991	Member, Physiological Chemistry Study Section, NIH
1987	Special Study Section Member, Molecular Cytology Study Section, NIH
1988	Site visit team member, NIGMS Genetics Center Program
1989	Special Study Section Member, Genetics Study Section, NIH
1989	Special Review Committee Member for the NIH Human Genome Project
1992	Ad Hoc Member, Radiation Study Section, NIH
1992	Ad Hoc Member, Scientific Advisory Committee on Nucleic Acids and Protein Synthesis, American Cancer Society
1995	Ad Hoc Member, Molecular Biology Study Section, NIH
1996	Site visit team member, NCI intramural programs. NIH
1997-	Advisory Committee, NIH consortium of Familial Colon Cancer Registries
1998	Site visit team member, NCI extramural programs, NIH
1999	Ad Hoc Member, NCI Scientific Review Group Subcommittee E, NIH
1999	Member, NCI Special Emphasis Review Group, NIH

Medical School:

1982-1987	Committee on Postdoctoral Fellows, Harvard Medical School
1986-1989	Medical Curriculum Standing Committee, Harvard Medical School
1988	Committee on New Initiatives in Graduate Education, Harvard Medical School
1989-1991	Ad Hoc Committee to search for four Full Professors of Dermatology to serve at the Massachusetts General Hospital
1990-1991	Ad Hoc Committee to search for a Full Professor of X-Ray Crystallography to serve in the Department of Biological Chemistry and Molecular Pharmacology
1990-1993	Subcommittee of Professors, Harvard Medical School
1993	Ad Hoc Committee to search for a Full Professor of Genetics to serve in the Department of Medicine at the Brigham and Women's Hospital
1993-1997	Standing Committee on Faculty Misconduct, Harvard Medical School
1994-1998	Ad Hoc Committee to search for a Full Professor of Medicine to be a member of the Division of Human Cancer Genetics at the Dana-Farber Cancer Institute
1995-1996	Ad Hoc Committee to evaluate Dr. Haruo Saito for promotion to Full Professor of Biological Chemistry and Molecular Pharmacology at the Dana-Farber Cancer Institute
1996-1997	Ad Hoc Committee to search for a Full Professor of Medicine to serve as Chief of the Department of Medical Oncology at the Dana-Farber Cancer Institute
1997-1998	Research Task Force, Strategic Planning Committee, UCSD School of Medicine
1998-	Head, UCSD Medical School Cancer Center Genetics Program.
1999-	Member, MSTP Admissions Committee, UC San Diego School of Medicine
Departmental:	
1979	Department of Biological Chemistry, Junior Faculty Search Committee, Harvard Medical School (recruited Welcome Bender, Kevin Strul)

1987-1988	Graduate Student Admission Committee, Departments of Biological Chemistry, Genetics, and Microbiology and Molecular Genetics
1987	Graduate Student Qualifying Examination Committee, Departments of Biological Chemistry, Genetics, and Microbiology and Molecular Genetics
1987-1990	Tridepartmental Graduate Program Executive Committee, Departments of Biological Chemistry and Molecular Pharmacology, Genetics, and Microbiology and Molecular Genetics
1988-1997	Executive Committee, Department of Biological Chemistry and Molecular Pharmacology
1989-1993	Department of Biological Chemistry and Molecular Pharmacology, Junior Faculty Search Committee, Harvard Medical School (recruited Elaine Elion, Andrew Lassar, Tom Ellenberger, Donald Morisoto, Steve Buratowski)
1995-1996	Department of Biological Chemistry and Molecular Pharmacology and Dana-Farber Cancer Institute, Junior Faculty Search Committee, Harvard Medical School (recruited Michael Eck)
Hospital:	
1979	Junior Faculty Search Committee, Dana-Farber Cancer Institute (recruited Jack Szostak, Lorraine Gudas)
1979-1988	Biohazard Committee, Dana-Farber Cancer Institute. Co-chairman, 1984. Chairman, 1985-1988
1980-1990	Library Committee, Dana-Farber Cancer Institute
1983-1984	Safety Committee, Dana Farber Cancer Institute
1984-1997	Core Molecular Biology Facility, Chairman and Facility Director, Dana Farber Cancer Institute
1989-1990	Chair, Junior Faculty Search Committee (for X-Ray Crystallography), Dana-Farber Cancer Institute (recruited Robert Liddington, Christin Frederick)
1989-1993	Center for AIDS Research Core Grant Executive Committee, Dana-Farber Cancer Institute
1989-1993	Chair, Center for AIDS Research Core Grant Small Grant Review Committee, Dana-Farber Cancer Institute
1990-1993	Scientific Computing Committee, Dana-Farber Cancer Institute

1992-1993	Chair, Junior Faculty Search Committee, Division of Cellular and Molecular Biology, Dana-Farber Cancer Institute (recruited Pam Silver)
1992-1994	Chair, Basic Sciences Executive Committee, Dana-Farber Cancer Institute
1993-1996	Member, Scientific Council, Dana-Farber Cancer Institute
1996-1997	Member, Executive Committee for Research, Dana-Farber Cancer Institute
1996-1997	Chair, Faculty Research Council, Dana-Farber Cancer Institute

Other:

1995	Advisory Committee, Biochemistry Graduate Program, Tufts University Medical School
1997	Charles S. Mott Prize Selection Committee, General Motors Cancer Research Foundation
1998-1999	AACR-Pezcoller Prize Selection Committee
1999-	External Advisory Committee, NCI Program Project CA82267, Louise Strong, Principal Investigator
1999-	External Advisory Board, Brazilian Genome Project
1999-	External Advisory Board, University of Texas MD Anderson Cancer Center
1999	Program Committee, Sub-Committee Chair, American Association for Cancer Research Year 2000 Annual Meeting

Editorial Services:

Editorial Boards:

1986-1995	Co-Editor in Chief (with Dr. F. Macrina), PLASMID
1995-	Associate Editor, Cancer Research
1996-	Associate Editor, Cell
1999-	Editorial Board, Molecular and Cellular Biology
2000-	Editorial Board, Journal of Biological Chemistry

Ad Hoc Reviews:

American J. Human Genetics  
 Biochem. Biophys. Acta  
 Biochemistry  
 Biotechniques  
 Blood  
 British J. Cancer  
 Cancer Research  
 Carcinogenesis

Cell  
 Current Biology  
 EMBO Journal  
 Gastroenterology  
 Gene  
 Genetics  
 Genes and Development  
 Genomics  
 J. Bacteriol.  
 J. Biol. Chem.  
 J. Clinical Investigation  
 J. Mol. Biol.  
 J. National Cancer Institute  
 Molecular Cell  
 Mol. Cell. Biol.  
 Mol. Gen. Genet.  
 Molecular Microbiology  
 Mutation Research  
 Nature  
 Nature Genetics  
 Nature Medicine  
 Nucleic Acids Research  
 Oncogene  
 Proc. Natl. Acad. Sci. USA  
 Science  
 Trends in Genetics

Memberships, Offices, and Committee Assignments in Professional Societies:

1979-	American Society for Microbiology
1984-	American Society of Biochemistry and Molecular Biology
1984-	Genetics Society of America
1991-1994	Protein Society
1996-	American Association for Cancer Research

Major Research Interests:

1. The enzymatic mechanism(s) of genetic recombination and repair in prokaryotes and eukaryotes.
2. Genetics of cancer susceptibility.

Teaching Experience:

1978	Lectures on DNA structure for graduate and medical students, Harvard Medical School (Biochemistry 700B)
1979-1983	Thesis supervisor (Graduate), Department of Biological Chemistry, Harvard Medical School; Jackie Joseph received his Ph.D. in 1983
1979-1982	Lectures on molecular biology of eukaryotes for graduate students, Harvard Medical School (Biochemistry 208)
1981-1988	Lectures on genetic recombination for graduate and medical students, Harvard Medical School (Cell Biology 211)
1982	Lectures on DNA replication, genetic recombination and nucleic acid metabolism for graduate students, Harvard Medical School (Biochemistry 200A)
1984-1987	Lectures on Protein Structure for graduate students, Harvard Medical School (Biochemistry 201)
1984-1988	Thesis supervisor (Graduate), Department of Cellular and Developmental Biology, Harvard University; Douglas Bishop received his Ph.D. in 1988
1987-1993	Thesis supervisor (Graduate), Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School; Daniel Tishkoff received his Ph.D. in 1993
1987-1991	Thesis supervisor (Graduate), Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School; Robert Reenan received his Ph.D. in 1991
1989-1993	Thesis supervisor (Graduate), Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School; Sharynn Hall received her Ph.D. in 1993
1989-1994	Thesis supervisor (Graduate), Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, Nai-Wen Chi received his Ph.D. in 1994.
1989	Division of Medical Sciences, Harvard Medical School, Graduate Student Education Workshop Committee
1990-1995	Course Director (With Dr. Charles C. Richardson), DNA Structure and Metabolism, Harvard Medical School (BCMP 209)
1993-1997	Thesis supervisor (Graduate), Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School; James V. Needham



1995	Lectures on DNA repair and cancer susceptibility syndromes for graduate students, Harvard Medical School (Cell Biology 211A)
1995	Lectures on DNA repair and cancer susceptibility syndromes for undergraduate students, Harvard University (Biological Sciences 10)
1995-1997	Thesis supervisor (Graduate), Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School; Adrienne Beddow
1995-1999	Thesis supervisor (MD, PhD), Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School; Clark Chen received Ph.D. in 1999
1998-	Thesis Supervisor (Graduate), Biomedical Sciences Graduate Program, UC San Diego School of Medicine; Patrick Lau
1998-	Lectures on DNA Repair in Molecular Biology, UCSD School of Medicine (BMS 211)

## BIBLIOGRAPHY

### Publications:

1. Kolodner, R, and Tewari, KK. Physiochemical characterization of mitochondrial DNA from pea leaves. *Proc. Natl. Acad. Sci. USA.* 1972;69:1830-1834.
2. Kolodner, R, and Tewari, KK. Molecular size and conformation of chloroplast deoxyribonucleic acid from pea leaves. *J. Biol. Chem.* 1972;247:6355-6363.
3. Kolodner, R, and Tewari, KK. Genome sizes of chloroplast and mitochondrial DNA's from higher plants. In Arceneaux C.J., ed. 30th Annual Proc. Electron Microscopy Soc. Amer. 1972;60-61.
4. Porter, BW, Kolodner, R, and Warner, RC. Plasmids of *Shigella dysenteriae*: A defective Col factor. *J. Bacteriol.* 1973;116:163-174.
5. Wagner, EI, Tewari, KK, Kolodner, R, and Warner, RC. The molecular size of the Herpes simplex type 1 virus genome. *Virology.* 1974;57:436-445.
6. Kolodner, R, and Tewari, KK. Denaturation mapping studies on the circular chloroplast deoxyribonucleic acid from pea leaves. *J. Biol. Chem.* 1975;250:4888-4895.

7. Kolodner, R, Warner, RC, and Tewari, KK. The presence of covalently linked ribonucleotides in the closed circular chloroplast deoxyribonucleic acid from higher plants. *J. Biol. Chem.* 1975;250:7020-7026.
8. Kolodner, R, and Tewari, KK. The chloroplast DNA from higher plants replicates by both the Cairns and the rolling circle mechanism. *Nature.* 1975;256:708-712.
9. Kolodner, R, and Tewari, KK. The molecular size and conformation of the chloroplast DNA from higher plants. *Biochem. Biophys. Acta.* 1975;402:372-390.
10. Kolodner, R, and Tewari, KK. The presence of displacement loops in the circular chloroplast deoxyribonucleic acid from higher plants. *J. Biol. Chem.* 1975;250:8840-8847.
11. Thomas, JR, Kolodner, R, and Tewari, KK. Molecular size and the information content of the chloroplast DNA's from higher plants. In Nasyrov, Y, and Sedak, Z, eds. *Genetic aspects of photosynthesis.* Netherlands: W. Junk, 1975:447:9-30.
12. Kolodner, R, Tewari, KK and Warner, RC. Physical studies on the size and conformation of the chloroplast DNA from higher plants. *Biochem. Biophys. Acta.* 1976;447:144-155.
13. Kolodner, R. The size, structure and replication of the chloroplast DNA from higher plants. Ph.D. thesis, University of California, Irvine. 1975.
14. Tewari, KK, Kolodner, R, Chu, NM, and Meeker, R. The structure of chloroplast DNA. In Bogorad, L, and Weil, J, eds. *Proceedings of the NATO Advanced Study Institute on nucleic acids and protein synthesis in higher plants.* London: Plenum Publishing Co. Ltd. 1976:15-36.
15. Tewari, KK, Kolodner, R, and Dobkin, W. Replication of circular chloroplast DNA. In Bucher, T, ed. *Genetics and development of chloroplasts and mitochondria.* Amsterdam: Elsevier Scientific. 1976;379-386.
16. Kolodner, R, and Richardson, CC. Replication of duplex DNA by bacteriophage T7 DNA polymerase and gene 4 protein is accompanied by hydrolysis of nucleoside 5'-triphosphates. *Proc. Natl. Acad. Sci. USA.* 1977;74:1525-1529.
17. Bedbrook, JR, Kolodner, R, and Bogorad, L. *Zea mays* chloroplast ribosomal RNA genes are part of a 22,000 base pair inverted repeat. *Cell.* 1977;11:739-750.
18. Bogorad, L, Bedbrook, JR, Davidson, JN, Hanson, MR, and Kolodner, R. Genes for plastid ribosomal proteins and rRNA's. *Brookhaven Symp. in Biology.* 1977;29:1-15.

19. Kolodner, R, Masamune, Y, LeClerc, JE, and Richardson, CC. Bacteriophage T7 deoxyribonucleic acid replication *in vitro*. IX. Gene 4 protein of bacteriophage T7: purification, physical properties, and stimulation of T7 DNA polymerase during the elongation of polynucleotide chains. *J. Biol. Chem.* 1978;253:566-573.
20. Kolodner, R, and Richardson, CC. Bacteriophage T7 deoxyribonucleic acid replication *in vitro*. X. Gene 5 protein of bacteriophage T7: characterization of the product synthesized by the T7 DNA polymerase and gene 4 protein in the absence of ribonucleoside 5'-triphosphates. *J. Biol. Chem.* 1978;253:574-584.
21. Bogorad, L, Bedbrook, JR, Coen, DM, Kolodner, R, and Link, G. Genes for chloroplast proteins and rRNA's. In Akyonoglou, G, and Argyroudi-Akyonoglou, JH, eds. *Chloroplast Development*, Amsterdam, Elsevier/North Holland Biomedical Press, 1978, 541-551.
22. Kolodner, R, and Tewari, KK. Inverted repeats in the chloroplast DNA from higher plants. *Proc. Natl. Acad. Sci. USA.* 1979;76:41-45.
23. Richardson, CC, Romano, LJ, Kolodner, R, LeClerc, JE, Tamanoi, F, Engler, MJ, Dean, FB, and Richardson, D. Replication of bacteriophage T7 DNA by purified proteins. *Cold Spring Harbor Symp. Quant. Biol.* 1979;43:427-439.
24. Bedbrook, JR and Kolodner, R. The structure of chloroplast DNA. *Ann. Rev. Plant. Physiol.* 1979;30:593-620.
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27. Lomedico, PT, Rosenthal, N, Efstratiadis, A, Gilbert, W, Kolodner, R, and Tizard, R. The structure and evolution of the two non-allelic rat preproinsulin genes. *Cell.* 1979;18:545-558.
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29. Perler, F, Efstratiadis, A, Lomedico, P, Gilbert, W, Kolodner, R, and Dodgson, J. Evolution of genes: the chicken preproinsulin genes. *Cell.* 1980;20:555-566.

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32. Fishel, RA, James, AA, and Kolodner, R. RecA-independent general genetic recombination of plasmids. Nature. 1981;294:184-186.
33. James, AA, Morrison, PT, and Kolodner, R. Genetic recombination of bacterial plasmid DNA: analysis of the effect of recombination-deficient mutations on plasmid recombination. J. Mol. Biol. 1982;160:411-430.
34. Doherty, MJ, Morrison, PT, and Kolodner, R. Genetic recombination of bacterial plasmid DNA: physical and genetic analysis of the products of plasmid recombination. J. Mol. Biol. 1983;167:539-560.
35. Joseph, JW, and Kolodner, R. Exonuclease VIII of *Escherichia coli*. I. Purification and properties. J. Biol. Chem. 1983;258:10411-10417.
36. Joseph, JW, and Kolodner, R. Exonuclease VIII of *Escherichia coli*. II. Mechanism of action. J. Biol. Chem. 1983;258:10418-10424.
37. James, AA, Morrison, PT, and Kolodner, R. Isolation of genetic elements that increase frequencies of plasmid recombinants. Nature. 1983;303:256-259.
38. James, AA, and Kolodner, R. Genetic recombination of Plasmids in *Escherichia coli*, in Cozzarelli, NR, ed. UCLA Symposia on Molecular and Cellular Biology, Volume 10. New York: Alan R. Liss, Inc. 1983;761-722.
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41. Howell, N, Huang, R, and Kolodner, R. Transmission and segregation of mitochondrial DNA dimers in mouse hybrid and cybrid cell lines. Somatic Cell Genetics. 1984;10:259-274.

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44. Symington, LS, Morrison, PT, and Kolodner, R. Genetic recombination catalyzed by cell-free extracts of *Saccharomyces cerevisiae*. *Cold Spring Harbor Symp. Quant. Biol.* 1984;49:805-814.
45. Kolodner, R, Fishel, RA, and Howard, M. Genetic recombination of bacterial plasmid DNA: effect of RecF pathway mutations on plasmid recombination in *Escherichia coli*. *J. Bacteriol.* 1985;163:1060-1066.
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and the repair of mismatched nucleotides. Curr. Comm. in Molecular Biology, Mechanisms of Yeast Recombination. Klar, A, and Strathern, JS, eds. Cold Spring Harbor Laboratory Press, 1986;165-171.

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72. Norris, DN, and Kolodner, R. Interaction of a *Saccharomyces cerevisiae* strand exchange stimulatory factor with DNA. *Biochemistry*. 1990;29:7911-7917.
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74. Lovett, ST, and Kolodner, R. Nucleotide sequence of the *Escherichia coli recJ* chromosomal region and construction of RecJ-overexpression plasmids. *J. Bacteriol.* 1991;173:353-364.
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Manuscripts submitted or in preparation:

Peel, DJ, Ziogas, A, Li, FP, Fox, EA, Gildea, M, Laham, B, Clements, E, Kolodner, RD, and Anton-Culver, H. Characteristics of a population-based series of colorectal cancer cases and a comparison between HNPCC cases from a population and a referral base.

Fox, EA, Li, C, Dovido, M, Wahlberg, S, Loda, M, Syngal, S, Garber, JE, and Kolodner, RD. Analysis of HNPCC cases for germline mutations in *MSH2* and *MLH1*.

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Syngal, S, Fox, EA, Eng, C, Kolodner, RD, and Garber, JE. Sensitivity and specificity of clinical criteria for hereditary nonpolyposis colorectal cancer-associated mutations in *MSH2* and *MLH1*.

Cooperative group efforts:

1. Peltomaki, P, Vasen, HFA, and the International Collaborative Group on Hereditary Nonpolyposis Colorectal Cancer. Mutations predisposing to hereditary nonpolyposis colorectal cancer: database and results of a collaborative study. *Gastroenterology*. 1997;113:1146-1158.

Patents and patent applications:

1. A Method for Detection of Alterations in the DNA Mismatch Repair Pathway (Australian Patent Ser. No. 702022; issued effective 17/11/94). Kolodner, RD, Fishel, R, and Reenan, RAG.
2. Detection of Mismatches by Cleavage of Nucleic Acid Duplexes (US Patent Ser. No. 5,824,471; issued 20/10/98). Mashal, R, Sklar, J, and Kolodner, RD.
3. Mammalian Mismatch Repair Genes *MLH1* and *PMS1* (US Patent Ser. No. 5,922,855; issued 13/07/99). Baker, S, Liskay, RM, Bollag, R, Bronner, E, and Kolodner, RD.
4. Mismatch Repair Genes, Gene Products, and Uses Thereof (US Provisional Patent Application Ser. No. 08/465,251). Kolodner, RD, Fishel, RA, and Reenan, R.
5. A Method for Detection of Alterations in the DNA Mismatch Repair Pathway (US Provisional Patent Application Ser. No. 08/448,444). Kolodner, RD, Fishel, RA, and Reenan, R.
6. *MSH5* Gene and Uses Thereof (US Provisional Patent Application Ser. No. 60,051,686). Kolodner, RD, and Winand, NJ.
7. *MSH* Ablated Mice and Uses Thereof (US Provisional Patent Application Ser. No. 60,113,487). Edelmann, W, Kolodner, RD, Pollard, JW, and Kucherlapati, R.